CLAIMS

1. A protein comprising the amino acid sequence of SEQ ID NO: 2, or a protein comprising the amino acid sequence of SEQ ID NO: 2 in which one or more amino acids are replaced, deleted, added, and/or inserted, and being functionally equivalent to the protein comprising the amino acid sequence of SEQ ID NO: 2.

2. The protein of claim 1, wherein the protein comprises the amino acid sequence of SEQ ID NO: 2.

3. A DNA encoding the protein of claim 1.

4. The DNA of claim 3, wherein the DNA comprises the nucleotide sequence of SEQ ID NO: 1.

5. A DNA encoding the protein of claim 1 or functionally equivalent with these protein, the DNA hybridizing under stringent conditions with DNA comprising the nucleotide sequence of SEQ ID NO: 1.

6. A DNA hybridizing specifically with the DNA of claim 4 and having a chain length of at least 15 nucleotides.

7. An antisense DNA against the DNA of claim 4 or a portion thereof.

8. A vector comprising the DNA of any one of claim 3, claim 4 and claim 5.

9. A transformant expressibly carrying the DNA of any one of claim 3, claim 4 and claim 5.

10. A method for producing the protein of claim 1, the method comprising culturing the transformant of claim 9 and collecting an expression product of the DNA of any one of claim 3, claim 4 and claim 5.

11. A reagent for the detection of mesangial cells comprising the DNA of claim 6.

12. An antibody binding to the protein of claim 1.

13. The antibody of claim 12, wherein the antibody recognizes a portion of a protein comprising an amino acid sequence selected from the amino acid sequence of SEQ ID NO: 2.

14. The antibody of claim 13, wherein the antibody is a monoclonal antibody.

15. An immunoassay method for measuring the protein of claim 2 or a fragment thereof based on immunological binding of the antibody

of any one of claim 13 or claim 14 to the protein of claim 2 or a fragment thereof.

16. A reagent for detecting the mesangial cell, the reagent comprising the antibody of any one of claim 12 to claim 14.

17. A method for detecting mesangial proliferative nephropathy, the method comprising measuring the protein of claim 2 or a fragment thereof contained in a biological sample and comparing the measured value with that obtained from a normal sample.

18. A transgenic nonhuman vertebrate in which the expression level of a gene encoding Meg-3 is modified.

19. The transgenic nonhuman vertebrate of claim 18, wherein the nonhuman vertebrate is a mouse.

20. The transgenic nonhuman vertebrate of claim 19, wherein the nonhuman vertebrate is a knockout mouse in which the expression of a gene encoding Meg-3 is inhibited.